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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/717,218   | 11/19/2003  | Shane E. Roark       | 63-03               | 6026             |
| 23713  | 7590        | 11/23/2004           | EXAMINER            |                  |
| GREENLEE WINNER AND SULLIVAN P C<br>4875 PEARL EAST CIRCLE<br>SUITE 200<br>BOULDER, CO 80301 |             |                      | SPITZER, ROBERT H   |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1724                |                  |

DATE MAILED: 11/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/717,218

Applicant(s)

ROARK ET AL.

Examiner

Robert H. Spitzer

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11, 12, 15 and 19-31 is/are rejected.
- 7) ☒ Claim(s) 5-10, 13, 14 and 16-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/23/04, 5/7/04, 8/16/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24 and 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 is indefinite because it recites "any one of the membranes of claim 1", however, claim 1 recites "A non-porous multi-layer membrane", not "membranes". Claim 26 is indefinite because lines 3 and 4 recite "a membrane of any of claim 1", which makes no sense, as claim 1 is a single claim.

Claims 27 and 28 are indefinite because they depend from indefinite claim 26.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 11, 12, 15 and 19-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by the composite hydrogen separation membrane and its use in Edlund (5,259,870). See Examples 1-4 and 9 and the corresponding portion of the specification.
5. Claims 5-10, 13, 14 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The remaining references listed on the PTO-1449 and those cited on the PTO-892 show art of interest.
7. Applicants' response to this Office action should also include the following editorial changes:

Page 1, line 10, the status of the parent case should be updated;

Page 1, line 16, "thought" should be "through";

Page 2, lines 9,11 and 18, "patent" should be "Patent";

Page 3, line 11, "were" should be "was";

Page 3, line 12, "patent" should be "Patent";

Page 4, line 18, "patents" should be "Patents";

Page 5, lines 15,19 and 22, "patent" should be "Patent";

Page 5, line 21, "ad" should be "as";

Page 6, lines 7 and 27, "patents" should be "Patents";

Page 7, lines 3 and 5, "patent" should be "Patent";

Page 7, line 4 states that "B=Eu or Tb", however, the formula has no letter "B";

Page 9, lines 7 and 11, "from in order from" should be "in order from";

Page 10, line 2, "titanium" should be deleted, as it appears in line 1;

Page 11, line 2, "B" should be "B";

Page 13, lines 24 and 29, "protectively" should be "protective";

Page 14, line 17, "protectively" should be "protective";

Page 16, line 10, "oxidation/reductions" should be "oxidation/reduction";

Page 18, line 5, "Fig. 17 is" should be deleted;

- Page 18, line 8, "a the" should be either "a" or "the";
- Page 18, line 11, "18." should be "18";
- Page 18, line 24, "Fig." should be "Figure";
- Page 20, line 26, "to" should be deleted;
- Page 21, lines 1,9 and 10, "8" should be "9";
- Page 21, line 25, "functions" should be "function";
- Page 23, line 7, "patent" should be "Patent";
- Page 23, line 10, "196" is not a complete year;
- Page 23, line 25, "200" is not a complete year;
- Page 26, line 7, "a alloy" should be "an alloy";
- Page 27, line 29, "patents" should be "Patents";
- Page 28, line 5, the second occurrence of "titanium" should be deleted;
- Page 28, line 9, "may additional provide" should be "may provide additional";
- Page 28, line 27, "patent" should be "Patent";
- Page 35, line 27, "B" should be "B";
- Page 39, line 4, "metals and alloys components" should be "metal and alloy components";
- Page 39, line 15, "salts" should be "salt";
- Page 39, line 28, "Figure" should be "Figures";
- Page 41, line 25, "patents" should be "Patents";
- Page 41, line 26, "patent" should be "Patent";
- Page 42, line 19, ".and" should be "and";

Page 43, line 8, ".and" should be "and";

Page 43, line 11, "a" should be deleted;

Page 44, line 13, "b)." should be "b)";

Page 46, line 4, "DVB" should be "PVB";

Page 46, line 19, "vanandium" should be "vanadium";

Page 56, line 3, "shorted" should be "shortened";

Page 58, line 9, "a the" should be either "a" or "the";

Page 58, line 12, "18." should be "18";

Page 58, line 13, "side membrane" should be "side of the membrane";

Page 58, line 24, "to" should be inserted after "due";

Page 59, line 17, ") " should be inserted after "transport"; and,

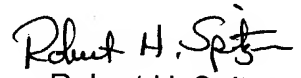
Page 65, line 7, "of" should be inserted after "separation".

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Spitzer whose telephone number is (571) 272-1167. The examiner can normally be reached on Monday-Thursday from (5:30AM-4:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 17, 2004

  
Robert H. Spitzer  
Primary Examiner  
Art Unit 1724

November 17, 2004